

REMARKS

Claims 1-5 are pending in the application. The amendments to the specification and claims correct minor typographical errors. No new matter is believed to be added to the application.


Entry of the above amendments is earnestly solicited. An early and favorable first action on the merits is earnestly solicited. If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Dr. Robert E. Goozner (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Respectfully submitted,

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Attachments

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Please amend the specification as follows:

On page 1, please replace the first full paragraph, lines 8-23 with the following rewritten paragraph:

--Because of their excellent thermal resistance and mechanical physical properties as well as their excellent flowability in molten state, i.e., processability, melt liquid crystallinity polyester [reins] resins that exhibit liquid crystallinity in molten state (hereinafter, such resin is referred to as liquid crystal polyester resin) have been used in various [field] fields as molding materials which can be subjected to precise molding. In recent years, in the electric and electronic fields where liquid crystal polyester resins are used very often, downsizing, lightening, high-speed processing and energy saving are more and more required for products represented by cellular phone parts and optical disc pickup parts. Following this, more [light-weighted] light-weight (low specific gravity) resins have been required as [the] materials having necessary mechanical physical properties and processability.--

Please replace the paragraph bridging pages 3-4 (page 3 lines 16 - 23 thru page 4 lines 1-3) with the following rewritten paragraph:

--Namely, the present invention relates to [1] a liquid crystal polyester resin composition, which comprises 5-20 parts by weight of glass fiber having a number average fiber diameter after molding of 2-20 μm , and a number average fiber length after molding of 210 - 500 μm ; and 100 parts by weight of a liquid crystal polyester resin containing the following structural units (I), (II), and (III), or the following structural units (I), (II), (III) and (IV); and the sum of (I), (II), (III) and (IV) is 95% by mole or more, and the flexural modulus thereof measured [with] using a test piece of 0.5 mm thickness is 25 GPa or more.--

Please replace the paragraph bridging pages 4-5 (page 4 (not counting figures), lines 7 - 11 thru page 5, lines 1-12) with the following rewritten paragraph:

--Further, the present invention relates to [3] a process for producing a polyester resin composition of [1], wherein a melt-kneading extruder equipped with a screw is used and the extruder has an upper stream side supplying portion at the upper stream part of the extrusion direction, and a lower stream side supplying portion at the lower stream part from [said] the upper stream side

supplying portion, and the ratio (L/D) of the distance (L) between [said] the upper stream side supplying portion and [said] the lower stream side supplying portion to the diameter (D) of a screw is 4-30 (L and D are the same scale units); and under screw rotation, 90% or more of the total supplying amount of the liquid crystal polyester resin and less than 5% [less] of the total supplying amount of the glass fiber are supplied from the upper stream side supplying portion, and less than 10% of the total supplying amount of the liquid crystal polyester resin and 95% or more of the total supplying amount of the glass fiber are supplied from the lower stream side supplying portion.--

Please replace the last paragraph on page 7, lines 20-24 with the following rewritten paragraph:

--The flow temperature of a liquid crystal polyester resin defined below, in view of the balance between processability and heat resistance, [it] is suitably 320 °C to 400 °C, and more suitably 360 °C to 390 [more] °C. When the flow temperature is less than 320 °C, heat resistance may be insufficient.--

On page 9, please replace the third full paragraph, lines 16-23, with the following rewritten paragraph:

--The amount of glass fiber to be contained is from 5-20 parts by weight to 100 parts by weight of the liquid crystal polyester resin. When it is less than 5 parts by weight, it is difficult to reduce the anisotropy of the liquid crystal polyester resin composition, and when more 20 parts by weight, it will become outside the meaning of the present invention referred to a low specific gravity composition.--

Please replace the second paragraph, page 10, lines 9-17, with the following rewritten paragraph:

--In the present invention, small amount of other fillers than glass fiber can be added to the liquid crystal polyester resin as required [according to requirements]. Examples of such fillers include: fibrous shape or needle-like [reinforceres] reinforcers such as silica alumina fiber, [wolastnite] wollastonite, carbon fiber, potassium titanate whisker, aluminum borate whisker, and titanium oxide whisker; and inorganic fillers, such as calcium carbonate, delomite, talc, mica, clay, glass beads, etc. These can be used alone or in combination of two or more.--

Please replace the paragraph bridging pages 11-12 (page 11, lines 9 - 24 thru page 12, lines 1-3) with the following rewritten paragraph:

--In order to obtain the liquid crystal polyester resin composition of the present invention, it is possible with a usual granulating machine or a molding machine, but suitably with a melt-kneading extruder equipped with a screw and has an upper stream side supplying portion at the upper stream part of the extrusion direction, and a lower stream side supplying portion at the lower stream part from said upper stream side supplying portion, and the ratio (L/D) of the distance (L) between said upper stream side supplying portion and said lower stream side supplying portion to the diameter (D) of a screw is 4-30 (L and D are the same scale units). With using said extruder, it is preferable that, under screw rotation, 90% or more of the total supplying amount of the liquid crystal polyester resin and less than 5% [less] of the total supplying amount of the glass fiber are supplied from the upper stream side supplying portion, and less than 10% of the total supplying amount of the liquid crystal polyester resin and 95% or more of the total supplying amount of the glass fiber are supplied from the lower stream side supplying portion.--

Please replace the full second paragraph on page 13, lines 12-18, with the following rewritten paragraph:

--In addition, a filler additive, etc. can be supplied in [an] the extruder from the supplying mouth installed at the suitable

position of the extruder. Or they are mixed beforehand together with the thermoplastic resin and/or glass fiber and can be supplied from the upper stream side supplying portion or the lower stream side supplying portion.--

Please replace the second full paragraph on page 15, lines 12-18 with the following rewritten paragraph:

--The molded article obtained by using the resin composition of the present invention has low specific gravity and high flow by having reduced amount of glass fiber, comparing with the conventional liquid crystal polyester resin compositions containing more than 30 wt% of glass fibers. On the one hand, by controlling fiber length long, the [flexural modulus in thin thickness] flexural modulus of the thin thickness molded article is maintained as it is and the anisotropy is reduced [low].--

Please replace the entire page 16, lines 1-24, with the following:

--related parts; semiconductor related parts such as IC tray and a wafer carrier; home electric appliances such as [VTR] VCR, television, an iron, an air-conditioner, a stereo, a cleaner, a refrigerator, a rice cooker, and illumination instruments; illumination instruments parts such as a lamp reflector and a lamp

holder; acoustic goods such as a compact disc, a laser disc, and a speaker; communication apparatuses such as a ferrule for optical cables, telephone parts, facsimile parts and a modem; copying machine related parts such as a stripping finger and a heater holder; machine parts such as an impeller, a fan gear, a bearing, motor parts, and a case; automobile parts, such as a mechanical component for cars, engine parts, parts in engine room, parts for electronics, and interior parts; cooking appliances such as a pan for microwave cooking and heat-resistant tableware; heat-insulation material [of] or sound-insulation material such as a floor material and a wall material; supporting material such as a beam, and pillar; building materials and/or construction materials such as a roof material; airplane, space machine, and parts for space machinery; parts for radiation facility, such as a nuclear reactor, parts for marine facility, jigs for cleaning, optical instrument parts, bulbs, pipes, nozzles, filters, films, medical application instrument parts and medical application material, sensors parts, sanitary goods, [sports] sporting goods, leisure goods, etc.--

Please replace the entire page 17, lines 1-24 with the following rewritten text:

--EXAMPLES

Hereinafter, examples of the present invention are described but the present invention is not limited to these. Physical properties of the examples were measured by the following method.

(1) Flow temperature: A temperature was measured at which the melt viscosity shows 48000 poise when a heated resin is extruded through a nozzle having an inner diameter of 1mm and a length of 10mm under a load of 100 kgf/cm² (9.81MPa) at a temperature-rising rate of 4°C/minute using a Koka type Flow Tester CFT-500 produced by Shimadzu Corporation.

(2) Number average fiber length and number average fiber diameter of glass fiber after molding: A test piece of ASTM No. 4 (molded article thickness of [2.5t] 2.5mm) was used and made into ash by [treading] treating at 600 °C for 2 hours with an electric furnace. Resultant glass fiber was enlarged with a diascope (50 or 20 times magnification for the number average fiber length, and 100 times magnification for the number average fiber diameter), and a photograph was taken. And then, fiber length and fiber diameter were measured for about 500 glass fibers.

(3) Specific gravity: it was measured according to ASTM D792 (23°C) with using ASTM No. 4 dumbbell.

(4) Bending strength: It was measured according to ASTM D790--

Please replace the top section of page 18, lines 1-9, with the following text:

--with using a test piece having a length of 127mm, a width of 12.7mm, and a thickness of 6.4mm.

(5) Flexural modulus: It was measured according to ASTM D790 with using a dumbbell test piece (0.5[t] mm in thickness) of JIS K7113 (1/2) by 20 mm [spans] span length.

(6) Heat distortion temperature under load: It was measured according to ASTM D648 under the load of 1.85 Mpa, with using a molded test piece having a length of 127mm, a width of 12.7mm, and a thickness of 6.4mm.--

Please replace the first full paragraph on page 19, lines 3-8, with the following rewritten paragraph:

--In the above-mentioned twin-screw extruder, the supply zones were made in two portions, one was in an upper stream part of the screw and the other was at the lower stream part by distance L of the screw to that of the upper stream part. [L and D=14] L/D=14 (D shows the diameter of the screw, and D and L are the same scale units here).--

In the Claims:

Please amend the claims as follows:

5. (Amended) A process for producing a polyester resin composition of claim 1, wherein a melt-kneading extruder equipped with a screw is used and the extruder has an upper stream side supplying portion at the upper stream part of the extrusion direction, and a lower stream side supplying portion at the lower stream part from said upper stream side supplying portion, and the ratio (L/D) of the distance (L) between said upper stream side supplying portion and said lower stream side supplying portion to the diameter (D) of a screw is 4-30 (L and D are the same scale units); and under screw rotation, 90% or more of the total supplying amount of the liquid crystal polyester resin and less than 5% [less] of the total supplying amount of the glass fiber are supplied from the upper stream side supplying portion, and less than 10% of the total supplying amount of the liquid crystal polyester resin and 95% or more of the total supplying amount of the glass fiber are supplied from the lower stream side supplying portion.